

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appeal No. _____

Application No.: 10/521,652

Filing Date: January 14, 2005

Appellant: Jonathon Reo Campian

Group Art Unit: 1791

Confirmation No.: 2215

Examiner: James D. Sells

Title: APPARATUS AND METHOD FOR HOLDING
MATERIALS FOR THE FORMING AND JOINING
THEREOF

Attorney Docket: 5772-000004/US/NP

APPEAL BRIEF

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February 8, 2010

Sir:

This brief on appeal is submitted pursuant to the Notice of Appeal filed in the U.S. Patent and Trademark Office on September 8, 2009, and in response to the Advisory Action mailed August 24, 2009, and the Final Office Action mailed May 11, 2009.

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I. REAL PART IN INTEREST

The real party in interest is Modern Body Engineering Corporation, by virtue of the assignment recorded in the Patent and Trademark Office at Reel 016541, Frame 0965.

II. RELATED APPEALS AND INTERFERENCES

The Assignee, the Appellant, and the undersigned do not know of any other appeals, interferences, or judicial proceedings that would directly affect or that would be directly affected by, or have a bearing on, the Board's decision in this Appeal.

III. STATUS OF THE CLAIMS

Claims 2-12, 22-24, 26, 27, 32, 34-44 and 47-52 are pending and stand rejected.

Claims 1, 13-21, 25, 28-31, 33 and 45-46 have been cancelled from the application.

Appellant appeals the rejection of claims 2-12, 22-24, 26, 27, 32, 34-44 and 47-52.

IV. STATUS OF THE AMENDMENTS

The claims have not been amended subsequent to the Final Office Action, and there are no un-entered amendments.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

Independent claim 49 recites a machine cell [10] for forming a body panel by joining of a first metal panel [A] to a second metal panel [B]. See, p. 5, ln. 16-22, FIG. 1. The machine cell [10] includes a lower nest [200] having a frame [202] and an upper surface [206] defined to substantially conform to a perimeter region of the first metal panel [A]. See, p. 8, ln. 22 - p. 9, ln. 8, FIGS. 1, 2 and 6. The upper surface [206] has a generally flat material-contacting area extending to a boundary of the upper surface [206] to enable unobstructed lateral movement of a forming tool [400, 402] from the material-contacting area across the boundary. See, p. 8, ln. 22 - p. 9, ln. 8, FIGS. 1, 2 and 6. See also, p. 10, ln. 14-18; p. 13, ln. 6-15 (describing movement of crowders away from material contacting area). The machine cell [10] also includes a vacuum pad [208] supported by the frame [202] adjacent to a portion of said material-contacting area and having a sealing surface defined to substantially conform to an interior region of the first metal sheet [A], and an elongated channel [210-210''] formed in the vacuum pad [208]. See, p. 9, ln. 9-23, FIGS. 1, 2 and 6. A vacuum system [204] enables fluid communication between a vacuum source [212] and the elongated channel [210-210''] for selectively evacuating said elongated channel [210-210'']. See, p. 10, ln. 1-8, FIGS. 2 and 6. The vacuum pad [208] and the vacuum system [212] are operable to generate a downward clamping force sufficient to laterally immobilize the first metal sheet [A] during an operation clinching together the first metal panel [A] and the second metal panel [B]. See, p. 13, ln. 3 - pg. 14, ln. 2, FIG. 2.

Independent claim 50 recites a machine cell [10] for forming a body panel by joining of a first metal panel [A] to a second metal panel [B]. See, p. 5, ln. 16-22, FIG. 1.

The machine cell [10] includes a lower nest [200] having a frame [202] and an upper surface [206] defined to substantially conform to a perimeter region of the first metal panel [A]. See, p. 8, ln. 22 - p. 9, ln. 8, FIGS. 1, 2 and 6. The upper surface [206] has a generally flat material-contacting area extending to a boundary of the upper surface [206] to enable unobstructed lateral movement of a forming tool [400, 402] from the material-contacting area across the boundary. See, p. 8, ln. 22 - p. 9, ln. 8, FIGS. 1, 2 and 6. See also pg. 10, ln. 14-18; p. 13, ln. 6-15 (describing movement of crowders away from material contacting area). The machine cell [10] also includes a plurality of pads [208] supported by the frame [202], each of the plurality of pads [208] located adjacent to a portion of said material-contacting area and having a sealing surface defined to substantially conform to an interior region of the first metal panel [A], and an elongated channel [210-210''] formed in each of the plurality of pads [208]. See, p. 9, ln. 9-23, FIGS. 1, 2 and 6. A vacuum system [204] enables fluid communication between a vacuum source [212] and the elongated channel [210-210''] for selectively evacuating the elongated channel [210-210'']. See, p. 10, ln. 1-8, FIGS. 1, 2 and 6. The plurality of pads [208] and the vacuum system [212] are operable to generate a downward clamping force sufficient to laterally immobilize the first metal sheet [A] during an operation clinching together the first metal panel [A] and the second metal panel [B]. See, p. 13, ln. 3 - p. 14, ln. 2, FIG. 2.

Independent claim 51 recites a machine cell [10] for forming a body panel by joining of a first metal panel [A] to a second metal panel [B]. See, p. 5, ln. 16-22, FIG. 1. The machine cell [10] includes a lower nest [200] including a frame [202] a plurality of sidewalls extending from a base and terminating at an upper surface [206] defined to

substantially conform to a perimeter region of the first metal panel [A]. See, p. 8, ln. 22 - p. 9, ln. 8, FIGS. 1, 2 and 6. The upper surface [206] has a generally flat material-contacting area extending to a boundary of the upper surface [206] to enable unobstructed lateral movement of the forming tool [400, 402] from the material-contacting area across the boundary. See, p. 8, ln. 22 - p. 9, ln. 8, FIGS. 1, 2 and 6. See also, pg. 10, ln. 14-18; p. 13, ln. 6-15 (describing movement of crowders away from material contacting area). The machine cell [10] also includes a plurality of pads [208] supported by the frame [202], each of the plurality of pads [208] located adjacent to a portion of said material-contacting area and having a sealing surface defined to substantially conform to an interior region of the first metal panel [A], and an elongated channel [210-210''] formed in each of the plurality of pads [208]. See, p. 9, ln. 9-23, FIGS. 1, 2 and 6. A vacuum system [204] enables fluid communication between a vacuum source [212] and the elongated channels [210-210''] for selectively evacuating the elongated channels [210-210'']. See, p. 10, ln. 1-8, FIGS. 1, 2 and 6. The plurality of pads [208] and the vacuum system [212] are operable to generate a downward clamping force sufficient to laterally immobilize the first metal sheet [A] during an operation clinching together the first metal panel [A] and the second metal panel [B]. See, p. 13, ln. 3 - p. 14, ln. 2, FIG. 2.

Independent claim 52 recites a method for forming a body panel by joining of a first metal panel [A] to a second metal panel [B]. See, p. 5, ln. 10-22, FIG. 1. A first metal panel [A] is located on an upper surface [206] of a lower nest [200] such that a perimeter region on a first side of the first metal panel [A] is supported on a generally flat material-contacting area of the frame [202], and an interior region of the first side

(outer surface of panel A) engages a pad [208] such that a sealed elongated channel [210-210"] is formed between the pad [208] and the first metal panel [A] adjacent a portion of the material-contacting area. See, p. 12, ln. 1-9, FIGS. 1 and 2. A second metal panel [B] is located on a second side of the first metal panel [A] opposite the first side. See, p. 12, ln. 1-5, FIGS. 1 and 2. The sealed elongated channel [210-210"] is evacuated to immobilize the first metal panel [A] on the frame [202]. See, p. 13, ln. 3-11, FIG. 2. A tool [400, 402] is operated across the boundary of the upper surface [206] to the material-contacting area on the first metal panel [A] to form and flange the first metal panel [A] over an edge of the second metal panel [B]. See, p. 13, ln. 12-19, FIG. 2.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Appellant seeks the Board's review to determine:

- A. whether the application as originally filed establishes that the Appellant had possession of the subject matter recited in claims 2-12, 22-27, 32, 34-45 and 49-51, and thus satisfies the written description requirement of 35 U.S.C. § 112, first paragraph such that the Examiner's rejection should be reversed; and
- B. whether the subject matter of claims 47-48 and 52 is patentable over U.S. Patent No. 5,228,190 to Sawa ("Sawa") in view of U.S. Patent No. 5,375,951 to Veale ("Veale") such that the Examiner's rejection under 35 U.S.C. §103(a) should be reversed.

VII. ARGUMENTS

The present application is directed to machine cells used in press hemming or roller hemming operations of metal panels such as vehicle body panels having class-a outer finish or show surface. These hemming operations impart significant lateral forces as a peripheral flange is folded or rolled over, but must not damage the show surface on the opposite or outer side of the body panel. The prior art described the use of overhead rings (see, block member 100 in U.S. Pat. No. 5,554,252 to Foran and disclosure at ¶[0004] of application) or side gauges (see, fixture 6 in U.S. Pat. No. 5,228,190 to Sawa and disclosure at ¶[0005] of application) to immobilize the first metal panel. However, these fixtures, namely the overhead rings or the gauges, can interfere with the travel of the forming tool during the hemming operation.

The claimed subject matter advances the state of the art by employing a vacuum pad having an elongated channel and a vacuum system operable to generate a downward clamping force during the forming operation. The structural configuration of the claimed machine cell is such that it supports and secures the metal panel in a manner that improves the hemming operation. Specifically, the upper surface of the lower nest has a generally flat material-contacting area extending to its edge to enable unobstructed lateral movement of a forming tool to and across the material-contacting area. The machine cell as claimed is able to laterally immobilize the metal panel without damaging the show surface, and provide unobstructed lateral access of the flange to be formed.

A. Rejection Of Claims 2-12, 22-27, 32, 34-45 And 49-51 Under First Paragraph Of 35 U.S.C. § 112 Is Not Proper

In pertinent part, claims 49-51 recite:

49. ... a lower nest including a frame and an upper surface defined to substantially conform to a perimeter region of the first metal panel, the upper surface having a generally flat material-contacting area extending to a boundary of the upper surface to enable unobstructed lateral movement of a forming tool from the material-contacting area across the boundary;

50. ... a lower nest including a frame having a base and a plurality of sidewalls, each of said plurality of sidewalls extending from said base and terminating at an upper surface defined to substantially conform to a perimeter region of the first metal panel, the upper surface having a generally flat material-contacting area extending to a boundary of the upper surface to enable unobstructed lateral movement of the forming tool from the material-contacting area across the boundary;

51. ... a lower nest including a frame and an upper surface defined to substantially conform to a perimeter region of the first metal panel, the upper surface having a generally flat material-contacting area extending to a boundary of the upper surface to enable unobstructed lateral movement of a forming tool from the material-contacting area across the boundary;

The Examiner deems the phrase “to enable unobstructed lateral movement of the forming tool from the material-contacting area across the boundary” (see bold underline text above) to be new matter, and rejects these claims, as well as claims 2-12, 22-27, 32 and 34-45 which depend from claims 49-51, for failing to comply with the written description requirement set forth in the first paragraph of 35 U.S.C § 112. In support of his rejection, the Examiner states that:

“...there is no mention of how the forming tool (400 or 402) engages the metal sheet materials (A and B), the degree or amount of access of the forming tool (400 or 402) to the material (A and B), or enabling unobstructed lateral movement of the forming tool (400 or 402) in the manner recited in Appellant’s claims. The drawings which show the forming tools (400 and 402) engaging the metal sheet materials (A and B), do not show how such tools are moved into engagement with the materials.” Office Action mailed May 11, 2009, pp. 2-3.

The Appellant submits that the application has been improperly rejected for the following reasons: (1) application of an overly restrictive standard to evaluate compliance with the written description requirement; (2) failure to consider on the claimed subject matter, instead focusing on how the forming tools moves; and (3) failure to consider the application as a whole including the specification and the drawings.

1. The Written Description Requirement

To comply with the written description requirement, an Appellant need not describe exactly the subject matter claimed, but need only demonstrate that the inventor was in possession of what is now being claimed at the time the application was filed. See, MPEP §2163.03, 2100-186. An objective standard for determining compliance with the written description requirement asks: “does the description clearly allow persons of skill in the art to recognize that he or she invented what is claimed.” *In re Gostelli*, 872 F.2d 1008, 1012, 10 USPQ2d 1614, 1618 (Fed. Cir 1989). “[T]he test for sufficiency of support ... is whether the disclosure of the application ... ‘reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter.’” *Ralston Purina Co. v. Far-Mar-Co., Inc.*, 772 F.2d 1570, 1575, 227 USPQ 177, 179 (Fed. Cir. 1985)(quoting *In re Kaslow*, 707 F.2d 1366, 1375, 217 USPQ 1089, 1096 (Fed. Cir. 1983). When evaluating an application for compliance with the written description requirement, the invention is defined by the claims and the “primary consideration is factual and depends on the nature of the invention and the amount of knowledge imparted to those skilled in the art by the disclosure.” *In re Smith*, 458 F.2d 1389, 1395, 173 USPQ 679, 683 (C.C.P.A. 1972)(emphasis in original).

An applicant shows possession of the claimed invention by describing the claimed invention using such description as words, structures, figures, diagrams in a manner to set forth the claimed invention. MPEP §2163.03, p. 2100-186 citing *Lockwood v. American Airlines, Inc.* 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed. Cir. 1997). In some instances, the drawings alone may sufficiently “describe” the claimed subject matter as required by §112, first paragraph. As Judge Rich explained in *In re Wolfensperger*, 302, F.2d 950, 133 USPQ 537 (C.C.P.A. 1962):

“[t]he board’s statement that “drawings alone cannot form the basis of a valid claim is too broad a generalization to be valid and is, furthermore, contrary to well settled and long-established Patent Office practice...Consider, for one thing, the sole disclosure in a design patent application is by means of a drawing. ... For another thing, consider that the only informative and significant disclosure in many electrical and chemical patents is by means of circuit diagrams or graphic formulae, constituting ‘drawings’ in the case ...

... The practical, legitimate enquiry in each case of this kind is what the drawing in fact discloses to one skilled in the art. ...

...The issue here is whether there is supporting ‘disclosure’ and it does not seem, under established procedure of long standing, approved by this court, to be of any legal significance whether the disclosure is found in the specification or in the drawings so long as it is there.

Id. at 955-56, 133 USPQ at 541-42.

2. Compliance With 35 USC §112, ¶1 Is Measured By Claimed Subject Matter

In rejecting claims 49-51, the Examiner isolated a portion of the claimed subject matter, namely “to enable unobstructed lateral movement of the forming tool from the material-contacting area across the boundary”, which places the limitation out of its proper context. As emphasized above and reproduced below, this language is only a portion of the claimed subject matter at issue. The limitation reads as follows:

the upper surface [of the frame] having a generally flat material-contacting area extending to a boundary of the upper surface to enable unobstructed lateral movement of a forming tool from the material-contacting area

across the boundary....

In particular, the Examiner focused only on the underlined portion stating that “there is no mention of how the forming tool (400 or 402) engages the metal sheet materials (A and B), the degree or amount of access of the forming tool (400 or 402) to the material (A and B), or enabling unobstructed lateral movement of the forming tool (400 or 402) in the manner recited in Appellant’s claims.” Final Office Action, p. 2. The Examiner also states that “the drawing which show the forming tools (400 and 402) engaging the metal sheet materials (A and B), do not show how such tools are moved into engagement with the materials.” *Id.*

Appellant submits that the written description when considered by a person of ordinary skill in the art does show that the inventor was in possession of the claimed subject matter, and in particular “a frame including ...[an] upper surface having a generally flat material-contacting area extending to a boundary of the upper surface to enable unobstructed lateral movement of the forming tool from the material-contacting area across the boundary...” In support of this position, Appellant refers to the specification and drawings as originally filed. Specifically, Appellant relied on the background (Specification, ¶[0005]) and the summary (Specification, ¶[0008]) in the specification and the illustrations in Fig-2. Appellant also highlighted the teachings of pivotal crowders positionable away from the material contacting area to prevent interference with the travel of the forming tool during the hemming operation (Specification, ¶[0050]). See also, VII.A.3, *infra*, p. 17.

The Examiner remarked that Fig-2 “does not show how the forming tools are moved into engagement with the material in a manner which enables unobstructed

lateral movement in the manner claimed.” The Examiner also noted that the “crowder assemblies with fingers are not recited in the claims and do not explicitly provide unobstructed lateral movement of the forming tool as claimed.” See Office Action, p. 5. The subject claim limitation is not, however, directed to how a tool is moved or a particular tool path, rather the limitation defines the structure of the upper surface and quantifies the generally flat material-contacting area.

As noted in the application as filed the “detail of the forming units 400, 402 are well known to those skilled in the art.” See Specification, ¶[0041]. See *a/so*, U.S. Patent No. 5,228,190 to Sawa, col. 5, lines 18-47 (general understanding of a roller-type hemming operation and movement of the tool with respect to the lower die). Rather the subject claim limitation recites the structural configuration of the upper surface as being “a generally flat material-contacting portion that extends to a boundary of the upper surface to enable unobstructed lateral movement of the forming tool from the material-contacting area across the boundary.” In proper context it is clear that the language emphasized by the Examiner qualifies the generally flat material-contacting portion, which does not require a particular description of the movement of a tool along any particular path.

3. Specification and Drawings Comply with Written Description Requirement

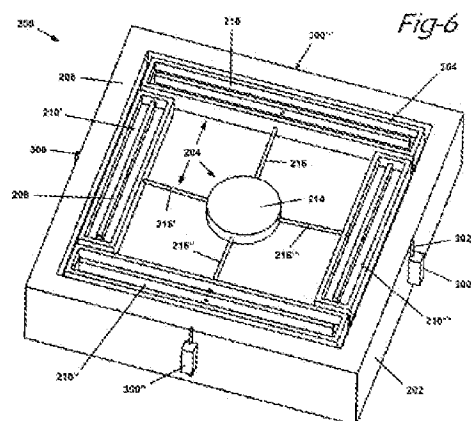
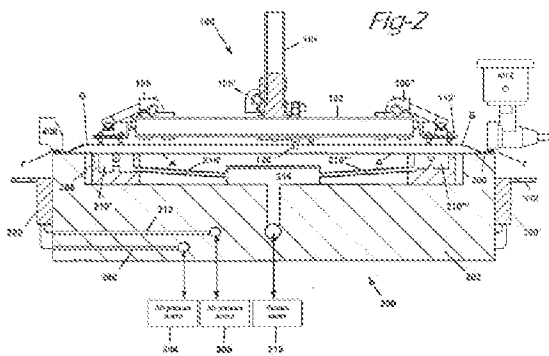
Even accepting the Examiner’s position that the claims recite how a tool is moved or a particular tool path, the specification and drawings demonstrate that the Appellant had possession of this subject matter at the time the application was originally filed. The specification discusses the known practice of using side gauges to align and hold two sheets during the forming operation, and the problem associated with this

practice. “Importantly, during operation, the gauges interfere with the travel of the forming tool. In some instances, if the gauges are spring-loaded, the rolling tool may be shocked and may suffer a pressure bounce when struck.” Specification, ¶[0005]. Appellant then states in the “Summary of the Present Invention” that “a method and apparatus [is provided] that overcomes the problems of known techniques for forming and joining a first sheet material to a second sheet material...” *Id.* at ¶[0008].

With reference to FIG. 2, the specification describes the lower nest **200** generally including a frame **202** and a vacuum assembly **204**. See, Specification, ¶[0035]. “The frame **202** includes an upper surface area **206** which provides support during the forming operation of the first sheet material **A** with the second sheet material **B** as is known in the art...” *Id.* The specification also describes the crowder assemblies **300**, **300'**, **300"**, **300'''** as including a finger **302** pivotally movable between a vertical aligning position and a horizontal disengaged position. See, Specification, ¶[0039]. The written description further explains the forming operation in which the fingers **302** are moved away from the upper surface area **206**. “Thus positioned, **the fingers will not interfere with the subsequent forming operation.**” Specification, ¶[0049] (emphasis added). “The joining operation then occurs, by which the upstanding flanges of material A are formed over onto material B resulting in clinched formation c. Formation c thus resides **around part of or the entire periphery** of the joined first sheet material A and the second sheet material B.” Specification, ¶[0050] (emphasis added). See also, U.S. Patent No. 5,228,190 to Sawa, col. 5, lines 18-47. (general understanding of how a roller-type tool engages the sheet metal and movement of the tool with respect to the lower die).

The Examiner misapprehended the significance of Appellant's disclosure relating to the crowder assemblies and improperly dismissed this evidence for not being recited in the claims.¹ The Examiner must review the basis for his rejection in view of the record as a whole including amendments, arguments and any evidence submitted by the Appellant. See MPEP §2163.4, p. 2100-188 (II. Response To Appellant's Reply). Those portions of the specification discussing the crowder assemblies demonstrate that the Appellant appreciated the fact that the structure of the lower nest should enable unobstructed movement of the forming tool. See Specification, ¶¶[0005],[0008],[0038],[0039] and [0049]-[0050]. See also, Appellant's Response, March 3, 2009, pp. 12-14.

The drawings, and specifically Fig-2 and Fig-6 (reproduced below), clearly illustrate Appellant's possession of this claimed subject matter, namely "a lower nest [200] including ...[an] upper surface [206] having a generally flat material-contacting area extending to a boundary of the upper surface to enable unobstructed lateral movement of the forming tool [400, 402] from the material-contacting area across the boundary..."



¹ Claim 5 as originally filed recited a lower nest including an alignment mechanism, and claims 6 and 17 as originally filed recite at least two crowder assemblies.

Fig-2, above left, shows the relationship of the upper surface 206 and the lack of any obstruction to lateral movement of the forming tools 400, 402. To wit, the crowder finger 302 is pivoted downwardly away from the upper surface 206. Appellant's possession of the claimed subject matter is further shown from a comparison of Fig-6 showing a generally flat material-contacting area extending to a boundary of the upper surface and finger 302 up for locating panel A (also shown in Fig-1) and Fig-2 showing a forming tool 400, 402 positioned across the boundary of the generally flat material-contacting area and finger 302 down to enable unobstructed lateral movement of the forming tool.

For these reasons, Appellant submits that the application as originally filed, and the prosecution record as a whole demonstrates that Appellant had possession of the claimed subject matter at the time the present application was filed, and that the written description requirement is satisfied. Accordingly, Appellant respectfully requests that the Board reverse the Examiner's rejections based on 35 U.S.C. § 112, ¶1 and allow claims 2-12, 22-27, 32, 34-45 and 49-51.

B. Rejection Of Claims 47-48 And 52 Under 35 U.S.C. § 103(A) Is Not Proper

The Examiner has rejected claims 47-48 and 52 under 35 U.S.C. § 103(a) as being unpatentable over Sawa (U.S. Patent 5,228,190) in view of Veale (U.S. Patent 5,375,951). The Examiner concedes that Sawa does not disclose "the interior region [of the lower nest] having an elongated channel and evacuating the elongated channel to immobilize the first metal panel in the manner claimed by the Appellant." Final office action dated May 11, 2009, p. 4. For this the Examiner relies on the teaching of Veale as disclosing an automated milling machine with "a nest or bed 11 includ[ing] a vacuum

channel 12, raised panel 13 and vacuum hole 14 connected via tube 15 to vacuum system 16.” *Id.*

It is undisputed that Sawa does not disclose the vacuum assembly recited in claims 47-48 and 52. Appellant further notes that Sawa uses fixtures **6** extending up along the sides of the lower die **5** to secure the workpiece in place. Thus, not only is the recited method and structure missing, Sawa fails to appreciate the problem associated with lateral obstructions of a roller-hemming system, or suggest the solution provided by Appellant’s vacuum assembly. Moreover, Appellant submits that the teaching of Veale are not properly combined with the teachings of Sawa to arrive at the method as defined in claims 47-48 and 52. Veale, like Sawa fails to appreciate the problems associated with lateral obstructions, much less a solution to this problem. In fact, lateral access is unimportant to the milling operations described by Veale which employ clamps 6 to hold bed 11 in place, only affording access to the workpiece from above. See, Veale, Fig. 2D.

“The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious.” MPEP § 2142. Citing *KSR Int’l v. Teleflex Inc.*, 127 S.Ct. 1727 (2007). “Rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rationale underpinning to support the legal conclusion of obviousness.” *KSR Int’l*, 127 S.Ct. at _____citing *In re Kahn*, 441 F.3d 977, 988, 78 USPQ.2d 1329, 1336 (2006). In other words, absent an express teaching or suggestion in the references, the explicit analysis and reasoning must be supplied by the Examiner.

Veale fails to disclose the limitations missing from Sawa. In particular, Veale fails to describe “locating a first metal panel on an upper surface of a lower nest such that...an interior region of said first side [of said first metal panel] engages a pad such that a sealed elongated channel is formed between said pad and said first metal panel adjacent a portion of said material contacting area, ...[and] evacuating said sealed elongated channel to immobilize said first metal panel on said frame...” The nest or bed 11 does not include a sealed elongated channel. Instead, Veale describes a series of interconnected channels forming an array of support post 13 in the wooden bed 11. A cover 17 with holes 18 is placed on top of the bed 11. A workpiece to be machined is placed onto cover 17 and held down by the suction created through the holes 18. See, Veale, Col. 4, lines 13-30. Thus, Veale does not teach or suggest “a sealed elongated channel is formed between said pad and said first metal panel adjacent a portion of said material-contacting area.” While one might consider any one of the interconnected channels to be an elongated channel, the interconnected channels cannot be considered a sealed, elongated channel in the final configuration. Moreover, Veale fails to teach or suggest any form of a sealed channel, much less one formed in part by the first metal sheet.

Veale also fails to describe a system which generates a downward clamping force sufficient to laterally immobilize the workpiece during milling. To wit, the milling operation described in Veale, and in particular the routing bit 10, would provide a significant downward force such that the vacuum table would not operate to immobilize a metal panel on the frame. Lastly, Veale fails to provide any teaching or suggestion of a pad, seal or any other compliant member for forming and maintaining an adequate

clamping force to immobilize a metal panel on the frame in a manner of protection against marring of the show surface of the workpiece.

Appellant reiterates that neither Sawa or Veale describe forming a sealed elongated channel between a pad and the first metal panel as claimed. As previously noted the prior art fails to provide any teaching or suggestion of a pad or sealed elongated channel for forming and maintaining an adequate clamping configuration or protection against marring of the show surface of the workpiece. The Examiner has not provided any articulated reasoning with some rational underpinning to support his conclusion that the claimed subject matter is obvious. See, Examination Guidelines for Determining Obviousness Under 35 U.S.C. 103 in View of the Supreme Court Decision in *KSR International Co. v. Teleflex Inc.*, Fed. Reg. Vol. 72, No. 195, 57526, 57529 (Oct. 10, 2007).

Appellant further submits that one of ordinary skill in the art would not look to the teachings of Veale to modify the lower die of Sawa since such a modification would be inoperable for the recited method. In particular, a modification of the lower die in Sawa in accordance with teaching of Veale would yield a method of forming wherein the metal sheet panel is placed directly on a metal die with a series of discrete vacuum holes. Clearly, such a modification would lack the sealed elongated channel recited in the subject claims. Moreover, the modified metal die would be incapable of immobilizing the first metal sheet against lateral forces and would result in unacceptable damage to the finish and show surface of the first metal sheet.

The Examiner has not provided any support to establish that the proposed combination would be operable, and thus achieve a predictable result of more

accurately and precisely aligning and holding the workpieces during automated processing. *Id.* at 57528-29 (rejections on obviousness cannot be sustained by mere conclusory statement). Veale describes a bed (11) made from a millable material such as wood having a sheet material (17) such as plywood with holes placed on top of the bed so that suction is created through the holes when the vacuum is operated. Veale, Col. 4, Ln. 13-30. A millable material, such as the wooden bed (11) disclosed in Veale or metal lower die (5) disclosed in Sawa, could not be used to form “a sealed elongated channel...between said pad and said first metal panel” sufficient “to immobilize said first metal panel on said frame” when the elongated channel is evacuated. Supporting a metal panel on a wooden bed will not adequately seal against the first metal panel for forming “a sealed elongated channel” to immobilize the part, and cannot adequately support the loads applied “to form and flange said first metal panel over an edge of said second metal panel.” Similarly, supporting the metal panel on a metal bed or die will also not adequately seal against the first metal panel to form “a sealed elongated channel” to immobilize the part, and would deface the show surface of the first metal panel when it is formed and flanged over an edge of the second metal panel.

In contrast to and what’s missing from the combination proposed by the Examiner, is “a pad such that a sealed elongated channel is formed between the pad and the first sheet metal panel...,” and “evacuating said sealed channel to immobilize said first metal panel on said frame...” The specification describes the pad as an elastic or semi-elastic polymerized material suitable to provide a substantially air-tight seal with respect to the first sheet material and to provide a cushioned surface support for

carefully supporting the first sheet material. Appellant's claimed method provides this structure and method to overcome these deficiencies in the art.

For all of the foregoing reasons, Appellant submits that the claimed method does not and could not properly result from a combination of the teachings from Sawa *et al.* and Veale. Moreover, any attempt to make such a combination would be rejected for failing to provide an adequate clamping force causing unacceptable damage to the finish and show surface of the first sheet material. For each of the above-stated reasons, Sawa in combination with Veale fail to disclose or suggest both the method and the concomitant structure recited in independent claim 52 and dependant claims 47-48 as presently pending. Accordingly, Appellant respectfully requests that the Board reverse the Examiner's rejections based on 35 U.S.C. § 103(a) and allow claims 47-48 and 52.

C. Conclusion

Appellant respectfully requests the Board to find that the application as originally filed satisfies the written description requirements for the subject matter recited in pending claims 2-12, 22-27, 32, 34-45 and 49-51, and to reverse the examiner's rejection of the subject claims on this ground.

Appellant respectfully requests the Board to find that the subject matter of claims 47-48 and 52 is not obvious in view of the teachings of Sawa *et al.* and Veale, and to reverse the Examiner's rejection of the subject claims on this ground.

Respectfully submitted,

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Date: February 8, 2010

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VIII. CLAIMS APPENDIX

This is a complete and current listing of the claims.

1. (Cancelled)
2. (Previously Presented) The machine cell of claim 49, further including an upper gate for holding the second metal panel, said upper gate movable between a raised position away from said lower nest and an engaged position near said lower nest with said lateral access to said material-contacting area being maintained.
3. (Previously Presented) The machine cell of claim 49, wherein said vacuum system further includes a plenum and at least one fluid line connecting said plenum to said elongated channel.
4. (Original) The machine cell of claim 3, wherein said vacuum system further includes a fluid line for fluidly connecting said plenum to a vacuum source.
5. (Previously Presented) The machine cell of claim 49, wherein said lower nest further includes an alignment mechanism for aligning the first metal panel to the nest periphery.
6. (Previously Amended) The machine cell of claim 5, wherein said alignment mechanism further comprises a pair of crowders, each of said pair of crowders including a pivoting alignment finger.

7. (Original) The machine cell of claim 2, further including means for moving said upper gate relative to said lower nest.

8. (Original) The machine cell of claim 2, wherein said upper gate includes at least one contact support shaft.

9. (Original) The machine cell of claim 2, wherein said upper gate includes three spaced-apart contact support shafts.

10. (Original) The machine cell of claim 8, wherein said at least one contact support shaft includes a contact plunger for contacting the second metal panel.

11. (Original) The machine cell of claim 10, wherein said contact plunger includes a spring-loaded nose.

12. (Previously Amended) The machine cell of claim 8, wherein said at least one contact plunger support shaft includes an alignment pin capable of engaging an alignment hole formed in the second sheet material.

Claims 13-21 are cancelled

22. (Currently Amended) The machine cell of claim 50, wherein said elongated channel is disposed within said frame.

23. (Previously Presented) The machine cell of claim 50, further including at least one alignment mechanism fitted to said frame.

24. (Previously Presented) The machine cell of claim 50, further including a central support disposed within said elongated cavity.

25. (Cancelled)

26. (Previously Presented) The machine cell of claim 50, wherein said frame further comprises a second material contacting surface offset from said first material contacting surface relative to said base.

27. (Previously Presented) The machine cell of claim 50, further including a forming tool, said forming tool being operative to effect forming of at least one of the first sheet material or the second sheet material.

Claims 28-31 are cancelled

32. (Previously Presented) The machine cell of claim 49 wherein said vacuum pad further comprising a support member disposed within said elongated channel and having a sealing surface defined to substantially conform to an interior region of the first sheet material.

33. (Cancelled)

34. (Previously Presented) The machine cell of claim 50 further including an upper gate for holding the second metal panel, said upper gate movable between a raised position away from said lower nest and an engaged position near said lower nest with said lateral access to said material-contacting area being maintained.

35. (Previously Presented) The machine cell of claim 34, further including means for moving said upper gate relative to said lower nest.

36. (Previously Presented) The machine cell of claim 34, wherein said upper gate includes at least one contact support shaft.

37. (Previously Presented) The machine cell of claim 34, wherein said upper gate includes three spaced-apart contact support shafts.

38. (Previously Presented) The machine cell of claim 37, wherein at least one of said three spaced-apart contact support shafts includes a contact plunger for contacting the second sheet material.

39. (Previously Presented) The machine cell of claim 38, wherein said contact plunger comprises a housing slidably supporting a spring-loaded nose.

40. (Previously Presented) The machine cell of claim 38, wherein at least one of said three spaced-apart contact support shafts includes an alignment pin capable of engaging an alignment hole formed in the second metal panel.

41. (Previously Presented) The machine cell of claim 50, wherein said vacuum system further comprises a plenum and a fluid line connecting said plenum to each of said elongated channels.

42. (Previously Presented) The machine cell of claim 41, wherein said vacuum system further comprises a vacuum source in fluid communication with said plenum.

43. (Previously Presented) The machine cell of claim 50, wherein said lower nest further includes an alignment mechanism for aligning the upper sheet material to the lower sheet material.

44. (Previously Presented) The machine cell of claim 43, wherein said alignment mechanism comprises a pair of crowdors, each of said pair of crowdors including a pivoting alignment finger.

Claims 45 and 46 are cancelled

47. (Previously Presented) The method of claim 52 further comprising aligning said first metal panel on said frame prior to evacuating said sealed elongated channel.

48. (Previously Presented) The method of claim 52 further comprising aligning said second metal panel on said first metal panel prior to operating said tool.

49. (Previously Presented) A machine cell for forming a body panel by joining of a first metal panel to a second metal panel, the machine cell comprising:

a lower nest including a frame and an upper surface defined to substantially conform to a perimeter region of the first metal panel, the upper surface having a generally flat material-contacting area extending to a boundary of the upper surface to enable unobstructed lateral movement of a forming tool from the material-contacting area across the boundary;

a vacuum pad supported by said frame adjacent to a portion of said material-contacting portion, said vacuum pad having a sealing surface defined to substantially conform to an interior region of the first metal sheet and an elongated channel formed therein;

a vacuum system to enable fluid communication between a vacuum source and said elongated channel for selectively evacuating said elongated channel;

wherein said vacuum pad and said vacuum system are operable to generate a downward clamping force sufficient to laterally immobilize the first metal sheet during an operation clinching together the first metal panel and the second metal panel.

50. (Previously Presented) A machine cell for forming a body panel by joining of a first metal panel to a second metal panel by a forming tool, the machine cell comprising:

a lower nest including a frame and an upper surface defined to substantially conform to a perimeter region of the first metal panel, the upper surface having a generally flat material-contacting area extending to a boundary of the upper surface to enable unobstructed lateral movement of the forming tool from the material-contacting area across the boundary;

a plurality of pads supported by said frame, each of said plurality of pads located adjacent to a portion of said material-contacting portion and having a sealing surface defined to substantially conform to an interior region of the first metal panel and an elongated channel formed therein;

a vacuum system to enable fluid communication between a vacuum source and said elongated channel for selectively evacuating said elongated channel;

wherein said plurality of pads and said vacuum system are operable to generate a downward clamping force sufficient to laterally immobilize the first metal sheet

during an operation clinching together the first metal panel and the second metal panel.

51. (Previously Presented) A machine cell for forming a body panel by joining of a first metal panel to a second metal panel by a forming tool, the machine cell comprising:

- a lower nest including a frame having a base and a plurality of sidewalls, each of said plurality of sidewalls extending from said base and terminating at an upper surface defined to substantially conform to a perimeter region of the first metal panel, the upper surface having a generally flat material-contacting area extending to a boundary of the upper surface to enable unobstructed lateral movement of the forming tool from the material-contacting area across the boundary;

- a plurality of pads supported on said base and located adjacent to said plurality of sidewalls, each of said plurality of pads having a sealing surface defined to substantially conform to an interior region of the first metal panel and an elongated cavity formed therein;

- a vacuum system to enable fluid communication between a vacuum source and said elongated cavity for selectively evacuating said elongated cavity;

wherein said plurality of pads and said vacuum system are operable to generate a downward clamping force sufficient to laterally immobilize the first metal sheet during an operation clinching together the first metal panel and the second metal panel.

52. (Previously Presented) A method for forming a body panel by joining of a first metal panel to a second metal panel, the method comprising:

locating a first metal panel on an upper surface of a lower nest such that a perimeter region on a first side of said first metal panel is supported on a generally flat material-contacting area of said frame and an interior region of said first side engages a pad such that a sealed elongated channel is formed between said pad and said first metal panel adjacent a portion of said material-contacting area;

locating a second metal panel on a second side of said first metal panel opposite said first side;

evacuating said sealed elongated channel to immobilize said first metal panel on said frame; and

operating a tool across the boundary of said upper surface to said material-contacting area on said first metal panel to form and flange said first metal panel over an edge of said second metal panel.

IX. EVIDENCE APPENDIX

None

X. RELATED PROCEEDINGS APPENDIX

None